A Stereo-Atlas of Ostracod Shells

edited by R. H. Bate, J. W. Neale, David J. Siveter and P. C. Sylvester-Bradley

Volume 3, Part 1; 27 August 1976

Printed and published by The Broadwater Press Ltd, Welwyn Garden City, Hertfordshire, England

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Contributions illustrated by scanning electron micrographs of Ostracoda in stereo-pairs are invited. Full instructions may be obtained on request from any one of the Editors or Editorial Board. Format should follow the style set by the majority of papers in this issue. Descriptive matter apart from illustrations should be cut to a minimum; preferably each plate should be accompanied by one page of text only. Blanks to aid in mounting figures for plates may be obtained from the Editors.

Acknowledgements

This Volume of the *Stereo-Atlas* has been aided by generous financial support from Robertson Research International Ltd. and from the Shell International Petroleum Co. Ltd.

Stereo-viewing for users of the Atlas

In order to obtain maximum information and benefit from the use of the *Stereo-Atlas* it is essential that the user view the micrographs stereoscopically. Small pocket-sized stereo-viewers are most suitable for this purpose. Two suppliers are:

C. F. Casella & Co. Ltd., Regent House, Britannia Walk, London N1 7ND, and Air Photo Supply Corpn., 158 South Station, Yonkers, New York 10705, U.S.A.

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ON RENIBEYRICHIA MULCIBER SIVETER gen. et sp. nov.

by David J. Siveter (University of Leicester, England)

Genus RENIBEYRICHIA gen. nov.

Type-species: Renibeyrichia mulciber sp. nov.

Derivation of name: Latin reuis, a kidney, and the generic name Beyrichia; with reference to the shape of the crumina.

Gender, feminine.

Diagnosis: Coarsely tuberculate beyrichine with a long crumina, indistinctly set off from the lobes, incorporating all of the anterior lobe up to the cuspidal region, the area of lobal connection and the

ventral region of the syllobium. Syllobial groove sharply defined, joined directly to the prenodal sulcus below a prominent, undisturbed zygal arch in both dimorphs. Velar ridge well developed, smooth, entire in tecnomorphs; it can be traced, parallel to the marginal structure, along the base

the crumina.

Explanation of Plate 3, 2

Fig. 1, tecnomorph RV, ext. vent. (OS 6847, 1600 μ m long). Figs. 2–5, $\stackrel{\frown}{}$ RV (holotype, OS 6848, 1800 μ m long): fig. 2, ext. vent.; fig 3, ext. ant.; fig. 4, ext. lat.; fig. 5, ext. post. Scale A (500 μ m; × 37), fig. 1; scale B (500 μ m; × 33), figs. 2–5.

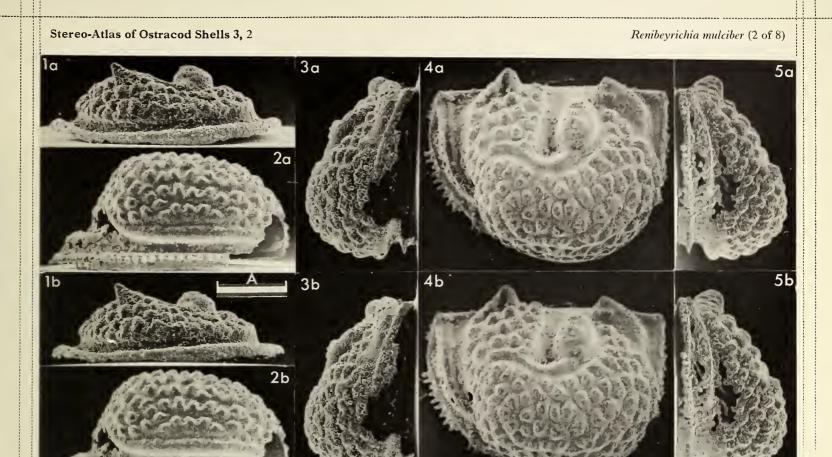
Stereo-Atlas of Ostracod Shells 3, 3

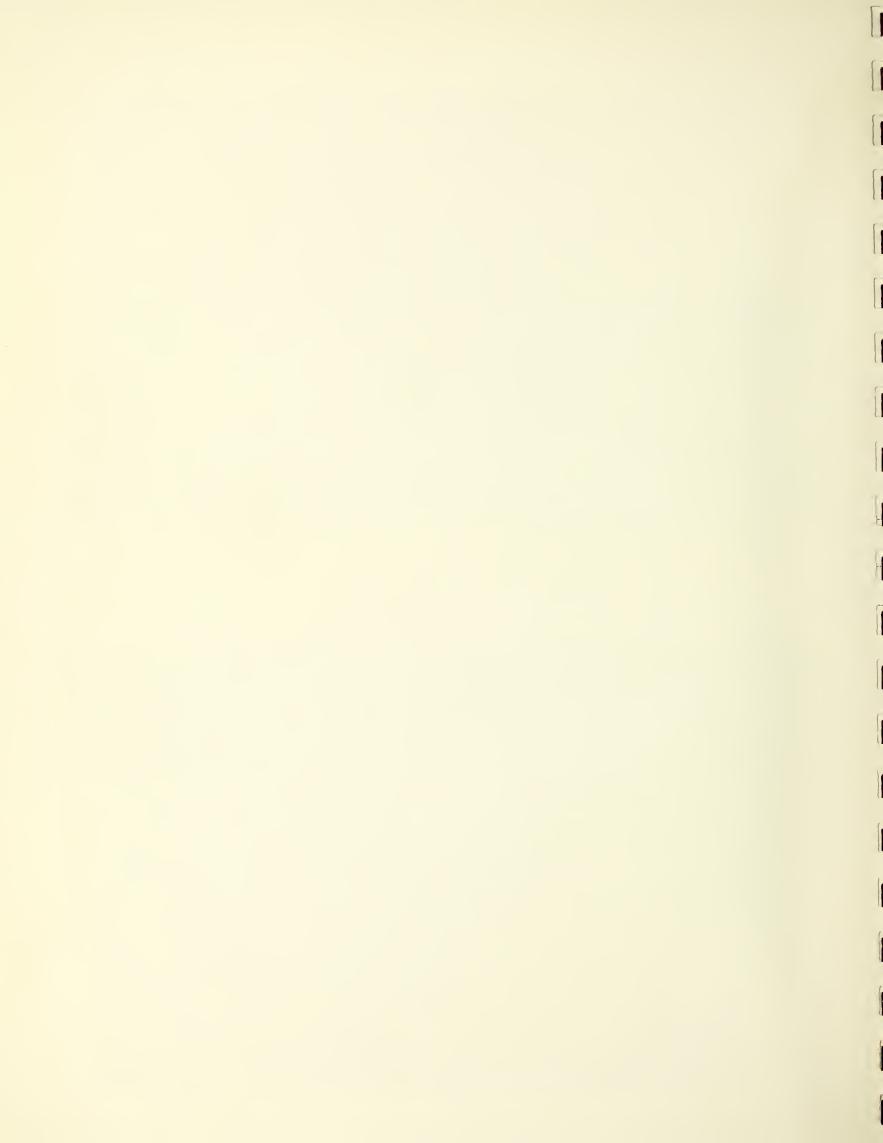
Renibeyrichia mulciber (3 of 8)

Remarks: A combination of the nature of the lobation, ornament and subcruminal morphology allies this species to the subfamily Beyrichiinae Matthew, 1886. As such, however, the overall shape and extent of the crumina is unique. The smooth, almost flange-like velum is also unusual. The incursion of the posterior part of the crumina into syllobial space imitates conditions more normally associated with treposellids.

Renibeyrichia is comparable with Beyrichia (Asperibeyrichia) Martinsson, 1962, Beyrichia (Scabribeyrichia) Martinsson, 1962, and Eobeyrichia Henningsmoen, 1954 in having a zygal arch in both females and tecnomorphs. As in the beyrichiines Calcaribeyrichia Martinsson, 1962, Plicibeyrichia Martinsson, 1962, Gaunibeyrichia Martinsson, 1962 and Navibeyrichia Martonsson, 1962, Renibeyrichia retains a ridge, rather than the more commonly found finger-print striation (cf. Beyrichia M'Coy, 1846), on the ventral part of the crumina. The assimilation within the carapace wall of much of the crumina and the lack of markedly abrupt differentiation between crumina and lobes is a relatively advanced trend known from other beyrichiines (cf. subgenus Asperibeyrichia), though the occurrence of an undisturbed zygal arch and fully developed beyrichiacean lobation shows that the Devonian Reuibeyrichia is not far removed from primitive Silurian members of the subfamily.

Explanation of Plate 3, 4







Renibeyrichia mulciber sp. nov.

Holotype: Brit. Mus. (Nat. Hist.) OS 6848, ♀ RV.

Type locality: Left bank of R. Murrumbidgee, at 'Shearsby's Wallpaper', 1100 yd upstream from Old Taemas

Bridge, SW of Yass, New South Wales, Australia; approx. lat. 35°0'S, long. 148°50'E; Spirifer yassensis Limestone, Murrumbidgee Series, Lower Devonian. Locality 1955/2 of White & Toombs

1972 (Bull. Br. Mus. nat. Hist. (Geol.) 22, 411).

Derivation of name: Latin Mulciber, god of fire; from resemblance of ornament to volcanoes.

Figured specimens: Brit. Mus. (Nat. Hist.) nos. OS 6847 (tecnomorph RV: Pl. 3, 2, fig. 1; Pl. 3, 4, figs. 1-3, 5), OS 6848

(\$\text{Pl. 3, 2, figs. 2-5; Pl. 3, 4, fig. 4; Pl. 3, 8, figs. 2, 3), OS 6849 (\$\text{LV: Pl. 3, 8, fig. 1), OS 6850}

(tecnomorph RV: Pl. 3, 6, figs. 1-4), OS 6851 (tecnomorph LV: Pl. 3, 8, fig. 4).

All valves silicified, ex-faunal phial IN 49627, obtained from Brit. Mus. (Nat. Hist.) P. murrumbidgeensis specimen P. 33583 (see 'Remarks'), from type locality. Rock not in situ, collected from

Diagnosis: Anterior lobal cusp and single syllobial cusp stoutly developed above the hinge line, mostly smooth,

A prominent calcarine spine. Apex of preadductorial node extended to reach the dorsal margin of

the valve.

Explanation of Plate 3, 6

Figs. 1-4, tecnomorph RV (OS 6850): fig. 1, ext. lat.; fig. 2, syllobial ornament; figs. 3, 4, ornament of anterior lobe. Scale A (500 µm; × 37), fig. 1; scale B (150 µm; × 110), fig. 2; scale C (75 µm; × 275), fig. 3; scale D (25 µm; × 550), fig. 4.

Stereo-Atlas of Ostracod Shells 3, 7

Renibevrichia mulciber (7 of 8)

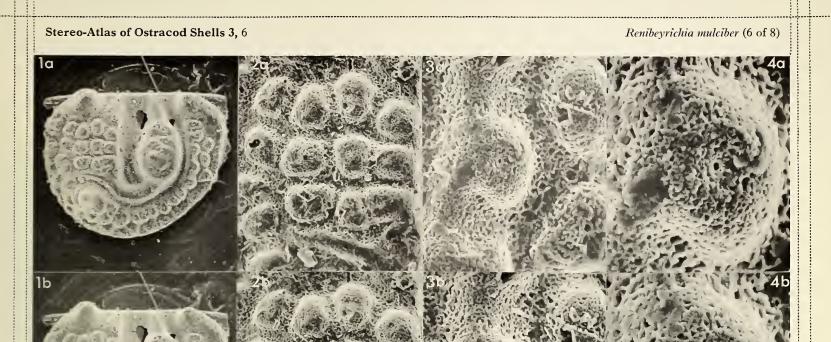
Remarks: R. mulciber is described from residues of a collection of Australian buchanosteid arthrodires made by Toombs and others during 1955 and 1963. Some of the arthrodire finds were documented (White & Toombs, op. cit.) as Parabuchanosteus murrumbidgeensis (White). Material [Brit. Mus. (Nat. Hist.)] consists of 25 valves, mostly fragmentary: figured specimens; faunal phials IN 49627, IN 49628; valves in faunal slide collection. There are six females, but no adult tecnomorphs.

A calcarine spine, always developed in tecnomorphs, may be present in females or, more usually, its position recognized by the occurrence of a conspicuous posterodorsal cruminal tubercle. Each tubercle has a single pore. The morphology of the syllobial groove and adjacent zygal arch is similar to that of Beyrichia (Scabribeyrichia) churkini Berdan & Copeland, 1973 (Prof. Pap. U.S. geol. Surv. 825) from assumed late Lower Devonian (Emsian) of Alaska and Yukon Territory.

Distribution: Known only from the marine S. yassensis Limestone, Murrumbidgee Series, New South Wales; White & Toombs localities 1955/2 (type locality) and 1963/16 (left bank of Murrumbidgee, shore E of mouth of Oakey Creek, 1250 yd upstream of Old Taemas Bridge; fish specimen P. 50389). The Murrumbidgee Series (Browne, 1959, J. Proc. R. Soc. N.S.W. 92 for 1958) is correlated with supposed upper Lower Devonian (late Siegenian-Emsian) strata in the Wee Jasper area to the W (Pedder, Jackson & Philip, 1970, 7. Paleo. 44).

Explanation of Plate 3, 8

Fig. 1, ♀ LV, ext. lat. (OS 6849); fig. 2, ♀ RV, vent. obl., ventrolateral cruminal ornament (holotype, OS 6848); fig. 3, ♀ RV, dors., ornament near syllobial cusp (holotype, OS 6848); fig. 4, tecnomorph LV, ext. lat. (OS 6851). Scale A (500 μm; × 31), fig. 1; scale B (200 μm; × 75), fig. 2; scale C (100 μm; × 150), fig. 3; scale D (500 μm; × 34), fig. 4.



Stereo-Atlas of Ostracod Shells 3, 8

Remibeyrichia mulciber (8 of 8)





ON PHILOMEDES DONZEI NEALE sp. nov.

by John W. Neale (University of Hull, England)

Philomedes donzei sp. nov.

1965 Cypridina? sp. nov. A; P. Donze, Trav. Lab. Géol. Univ. Lyon 12, 100-101, pl. 3, figs. 71-74.

Holotype: University of Hull coll. no. **HU.152.C.1**, ♀ car.

[Paratypes: University of Hull coll. no. HU.152.C.2, ♀ LV. University of Lyon coll. nos. 157130,

 \bigcirc car.; 157131, \bigcirc car.; 157132, \bigcirc LV and associated RV].

Type locality: Chabrières, Alpes-Haute-Provence, France; approx. lat. 44°02'N, long. 6°16'E. From the basal

Valanginian of the Vocontian Trough.

Derivation of name: In honour of Dr P. Donze of the University of Lyon.

Figured specimens: University of Hull coll. no. HU.152.C.1 (\$\varphi\$ car.: Pl. 3, 10, figs. 2, 3). University of Lyon coll. nos.

157130 (♀ car.: Pl. **3**, 12, fig. 1), **157131** (♀ car.: Pl. **3**, 12, fig. 2), **157132** (♀ LV, RV with musc. sc.

pattern: Text-fig. 1); unnumbered specimen (3 car.: Pl. 3, 10, fig. 1).

Explanation of Plate 3, 10

Fig. 1, β car., ext. lt. lat. (unnumbered specimen, 1065 μ m long). Figs. 2, 3, φ car. (holotype, **HU.152.C.1**, 1117 μ m long): fig. 2, ext. lt. lat.; fig. 3, ext. rt. lat. Scale A (200 μ m; × 60), fig. 1; scale B (200 μ m; × 59), figs. 2, 3.

Stereo-Atlas of Ostracod Shells 3, 11

Philomedes donzei (3 of 4)

Figured specimens: Unnumbered specimen from locality c. 50 m from entrance

(contd.) to grounds of Château de Malbos, Berrias-la Rouvière road, France; approx. lat. 44°23′N, long. 4°12′E; basal Valan-

ginian. All other specimens are from the type locality.

Diagnosis: Smooth, thick-shelled. In lateral view female almost equidimensional, male more elongate.

differisional, male more ciongate

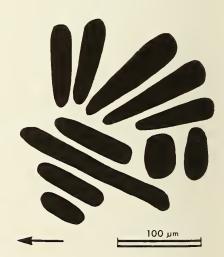
Remarks: Myodocopida are rare in the geological record. This species has a similar muscle scar pattern and the strong sexual dimorphism of *Philomedes* but is heavily calcified suggesting that its swimming ability was more limited than present species of the genus. Specimens of "Cypridina? sp. nov. A" figured by Donze (1965) from a similar horizon at Berrias, Ardèche are

the males of this species (see Pl. 3, 10, fig. 1).

Distribution: Dr Donze informs me that this species occurs widely in the

Vocontian Trough where it is an important marker, being confined to the basal Valanginian Beds and not so far found

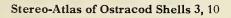
above the base of the Kilianella roubaudi Zone.



Text-fig. 1. \supseteq LV, ext. musc. sc. (157132).

Explanation of Plate 3, 12

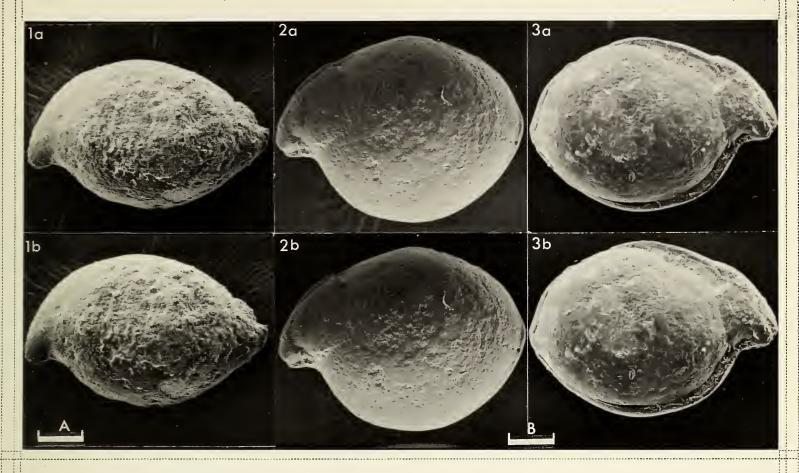
Fig. 1, \mathcal{Q} car., ext. dors. (157130, 1039 μm long); fig. 2, \mathcal{Q} car., ext. vent. (157131, 1156 μm long). Scale A (200 μm ; \times 81), figs. 1, 2.



Stereo-Atlas of Ostracod Shells 3, 12

Philomedes donzei (2 of 4)

Philomedes donzei (4 of 4)



2a
2b





ON CENTROCYPRIS VIRIDIS NEALE sp. nov.

by John W. Neale (University of Hull, England)

Centrocypris viridis sp. nov.

Holotype: University of Hull coll. no. **HU.250.R.1**, \supseteq RV, LV, limbs and soft parts.

[Paratypes: University of Hull coll. nos. **HU.250.R.2–9** (all \mathcal{L})].

Type locality: A tank at Ma-Eliya, near Battuluoya, Sri Lanka; approx. lat. 7°48'N, long. 79°55'E. Recent.

Derivation of name: From the Latin viridis, green; referring to the beautiful deep green colour observed in fresh

material.

Figured specimens: University of Hull coll. nos. HU.250.R.4a (Q LV, RV: Pl. 3, 14, figs. 1, 2; Pl. 3, 18, fig. 2), HU.

250.R.1a,b (\$\varphi\$ LV, RV, limbs & soft parts: Pl. 3, 16, figs. 1, 2; Pl. 3, 18, figs. 1, 3; Text-figs. 1, 2),

HU.250.R.2a (♀ LV, RV: Pl. 3, 20, figs. 1–3). All specimens are from the type locality.

Diagnosis: Shell covered with small spines, not strongly vaulted posterodorsally in lateral view, furcal rami

slender.

Explanation of Plate 3, 14

Figs. 1, 2, \bigcirc (HU.250.R.4a, 920 μ m long): fig. 1, RV, ext. lat.; fig. 2, LV, ext. lat. Scale A (200 μ m; \times 90), figs. 1, 2.

Stereo-Atlas of Ostracod Shells 3, 15

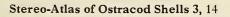
Centrocypris viridis (3 of 8)

Remarks: The three species of Centrocypris so far described have all come from Africa or from islands associated with the African mainland, although Hartmann (1964, Int. Revue ges. Hydrobiol.) has recorded Centrocypris horrida Vavra, 1895 from a single locality in India. Centrocypris viridis differs from Centrocypris jakulskii Grochmalicki, 1914 (the closest of the three species of Centrocypris) in the lesser vaulting of the shell posterodorsally in lateral view and the somewhat more slender furcal rami. In the E African C. jakulskii the furcal claws are the same length but in C. viridis the subterminal claw is typically shorter than the terminal claw although there is some variation in this and about 20% of the specimens examined have the furcal claws of equal length. From C. horrida (Zanzibar, E Africa, Aldabra Island and India) the Sri Lanka species differs in lacking the strong marginal spination. From Centrocypris margaritifera Müller, 1898 (Madagascar), C. viridis differs in the absence of ribbing on the ventral surface, the absence of a posteroventral spine and in the very much shorter dorsal seta on the furca which in Müller's species appears to be equal in length to the sub-terminal claw.

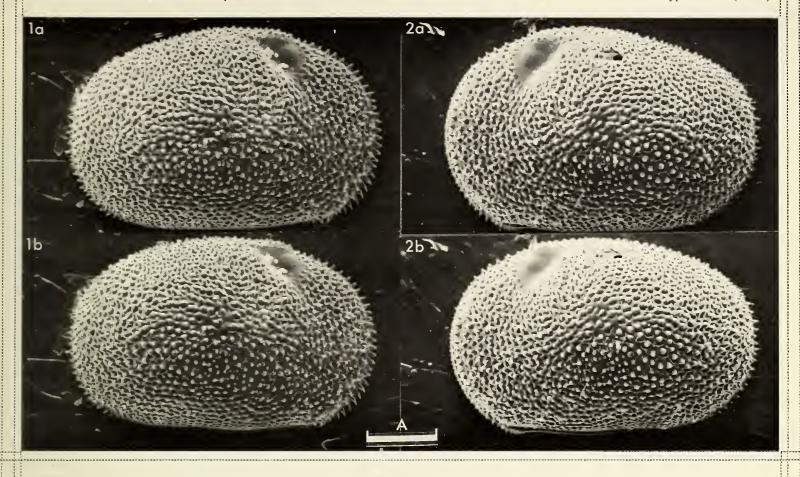
Distribution: C. viridis appears to be well established in Sri Lanka, the type locality yielding 146 specimens and paddy fields at Karainagar East, Jaffna (lat. 9°44′N, long. 79°53′E) providing another 38. In the Ma-Eliya sample the species was associated with Cypris subglobosa Sowerby, Stenocypris major (Baird), Cypretta globosa (Brady), Hemicypris pyxidata (Moniez) and a new species of Strandesia. At Karainagar East the sample contained only C. viridis, but another sample from the same locality contained C. subglobosa Sowerby and the same new species of Strandesia.

Explanation of Plate 3, 16

Figs. 1, 2, \updownarrow (holotype, **HU.250.R.1a**, 950 μ m long): fig. 1, RV, int. lat.; fig. 2, LV, int. lat. Scale A (200 μ m; \times 84), figs. 1, 2.



Centrocypris viridis (2 of 8)



Stereo-Atlas of Ostracod Shells 3, 16

Centrocypris viridis (4 of 8)







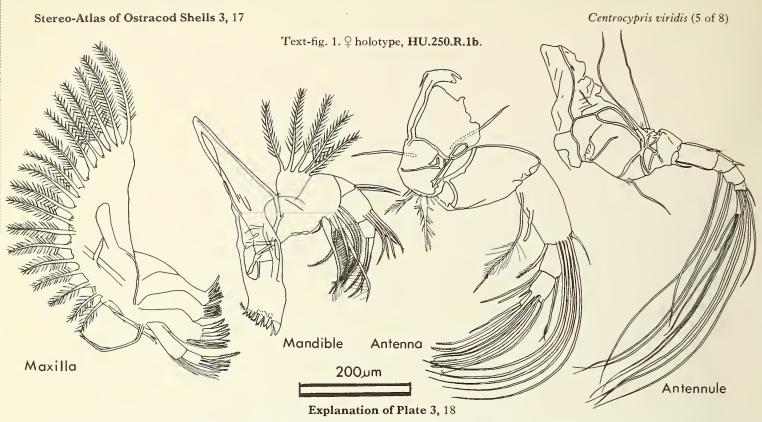
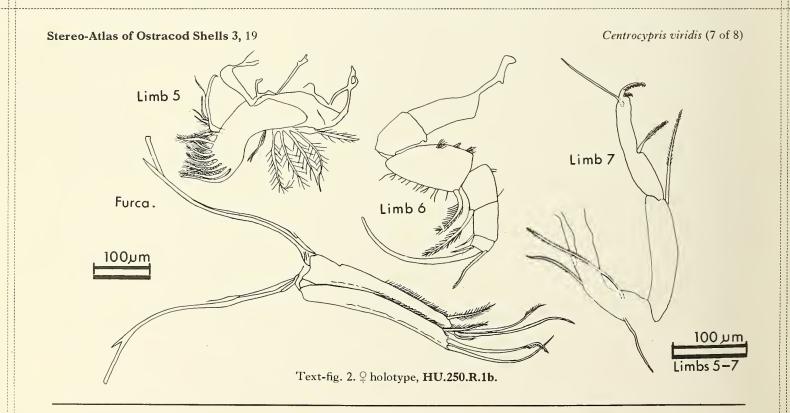
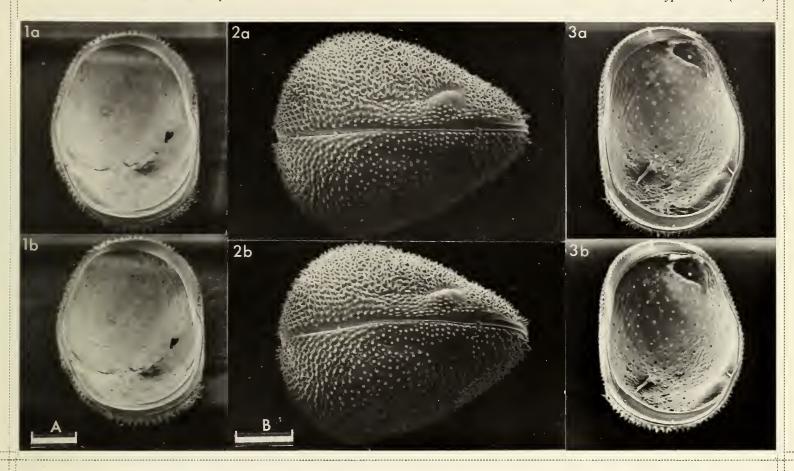


Fig. 1, \bigcirc RV, int. ant. obl. (holotype, **HU.250.R.1a**); fig. 2, \bigcirc car. ,ext. dors. (**HU.250.R.4a**); fig. 3, \bigcirc LV, int. ant. obl. (holotype, **HU.250.R.1a**). Scale A (200 μ m; \times 63), figs. 1, 3; scale B (200 μ m; \times 72), fig. 2.



Figs. 1–3, $\c (HU.250.R.2a, 1000 \ \mu m \ long)$: fig. 1, LV, ant. margin; fig. 2, RV, int. musc. sc.; fig. 3, RV, post. margin. Scale A (100 μm ; \times 125), fig. 1; scale B (40 μm ; \times 450), fig. 2; scale C (100 μm ; \times 180), fig. 3.

Explanation of Plate 3, 20



Stereo-Atlas of Ostracod Shells 3, 20

Centrocypris viridis (8 of 8)





ON ONCOCYPRIS PUSTULOSA GURNEY

by John W. Neale (University of Hull, England)

Oncocypris pustulosa Gurney, 1916

1916 Oncocypris pustulosa sp. nov. R. Gurney, Proc. zool. Soc. Lond. 1916, 340, pl. 3, figs. 17-21.

1963 Oncocypris pustulosa Gurney, 1916; E. Triebel, Senckenberg biol. 44, 35.

1975 Oncocypris pustulosa Gurney, 1916; R. G. Michael & R. Victor, J. nat. Hist. 9, 509, text-figs. 1A-F.

Type specimens: The repository is unknown.

Type locality: A tank by Lady Horton's Drive at Kandy, Sri Lanka (Ceylon); approx. lat. 7°17'N, long. 80°40'E.

Recent.

Figured specimens: University of Hull coll. nos. HU.244.R.2a (\$\Pmi LV, RV: Pl. 3, 22, fig. 1; Pl. 3, 26, fig. 3), HU.244.R.1a

(& LV, RV: Pl. 3, 22, figs. 2, 3; Pl. 3, 24, figs. 1, 2; Pl. 3, 26, figs. 1, 2; Pl. 3, 28, figs. 2, 3), HU.244.R.1b

(3 limbs & soft parts: Pl. 3, 28, fig. 1; Text-figs. 1, 2).

Explanation of Plate 3, 22

Fig. 1, \bigcirc RV, ext. lat. (HU.244.R.2a, 545 μ m long); fig. 2, \bigcirc RV, ext. ant. obl. (HU.244.R.1a, 493 μ m long); fig. 3, \bigcirc RV, ext. lat. (HU.244.R.1a).

Scale A (100 μ m; × 132), fig. 1; scale B (100 μ m; × 144), figs. 2, 3.

Stereo-Atlas of Ostracod Shells 3, 23

Oncocypris pustulosa (3 of 8)

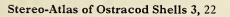
Figured specimens: All specimens are from Rambewewa near Nochchiyagama, Sri Lanka; approx. lat. 8°17′N, long. (contd.) 80°12′E.

Diagnosis: Strongly vaulted carapace, egg-shaped in dorsal view, covered with pustules and with well developed eye tubercles and post-ocular sulcus. Left and right clasping limbs (limb 5) of male dissimilar. The flagelliform furca is characteristic of the genus.

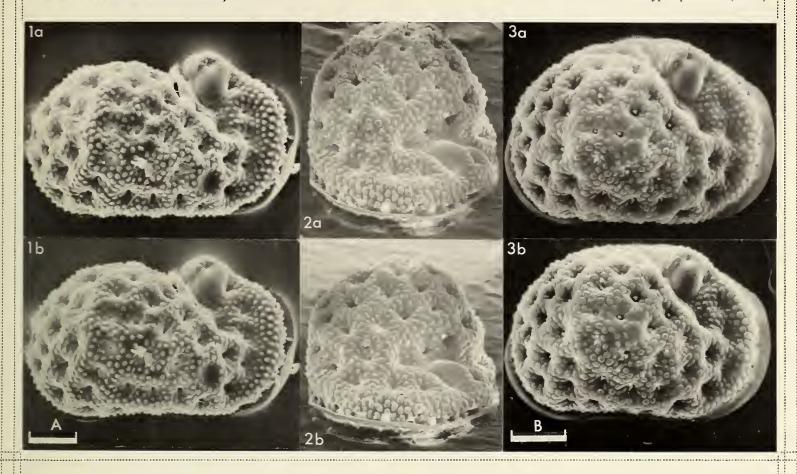
Remarks: Gurney (1916) noted that there was a single small seta on the maxilla (recte second maxilla on his terminology) and that G. W. Müller (1898, Abh. senckenb. naturforsch. Ges. 21, 286) gives the absence of a respiratory plate on this limb as a feature of the genus. Michael & Victor (1975) note that in their material from a coastal freshwater pond in Kerala State, S India, there is an unmistakable respiratory plate on the second maxilla although they do not figure it. The Sri Lanka material confirms this and is figured here, the left and right parts of this limb in the male being dissimilar. Michael & Victor (1975) note 17 rosettes in the Zenker's organ. Present material shows that the number varies between 16 and 18. Carapace shows sexual dimorphism, in the present material the male being shorter and higher than the female.

Distribution: This species has only been found in Sri Lanka and S India (Kerala).

Explanation of Plate 3, 24

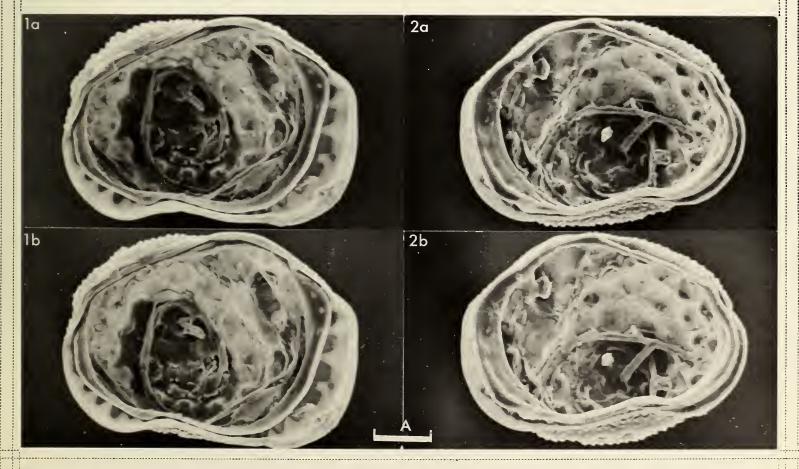


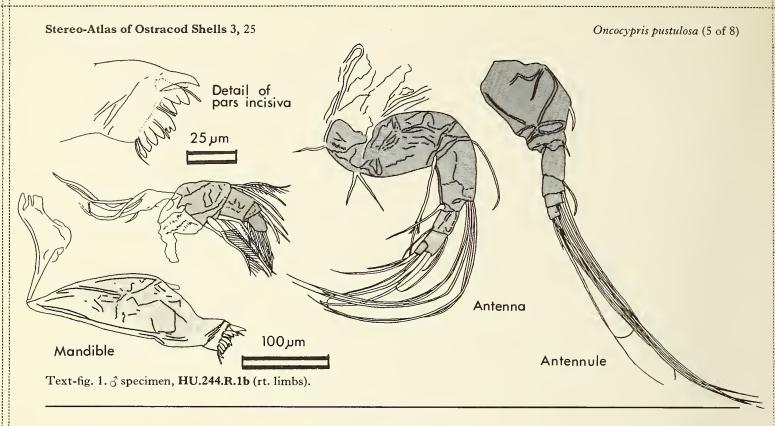
Oncocypris pustulosa (2 of 8)



Stereo-Atlas of Ostracod Shells 3, 24

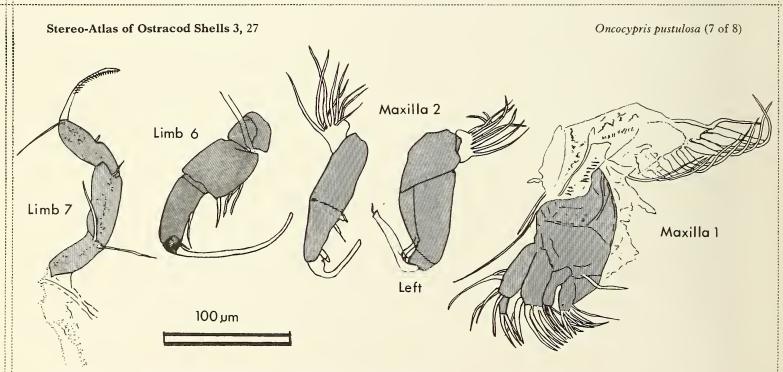
Oncocypris pustulosa (4 of 8)





Explanation of Plate 3, 26

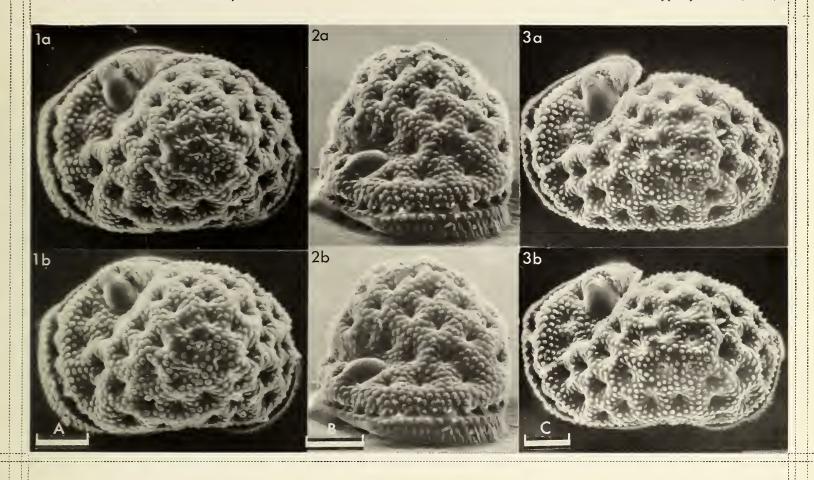
Fig. 1, 3 LV, ext. lat. (HU.244.R.1a); fig. 2, 3 LV, ext. ant. obl. (HU.244.R.1a); fig. 3, $\stackrel{\bigcirc}{\circ}$ LV, ext. lat. (HU.244.R.2a). Scale A (100 μ m; × 142), fig. 1; scale B (100 μ m; × 151), fig. 2; scale C (100 μ m; × 128), fig. 3.



Text-fig. 2. 3 specimen, HU.244.R.1b (all rt. limbs except where stated).

Explanation of Plate 3, 28

Fig. 1, \circlearrowleft , Zenker's organ (HU.244.R.1b); fig. 2, \circlearrowleft RV, int. ant. obl. (HU.244.R.1a); fig. 3, \circlearrowleft LV, int. ant. obl. (HU.244.R.1a). Scale A (100 μ m; × 278), fig. 1; scale B (100 μ m; × 128), figs. 2, 3.



Stereo-Atlas of Ostracod Shells 3, 28

Oncocypris pustulosa (8 of 8)





ON STENOCYPRIS FERNANDOI NEALE sp. nov.

by John W. Neale (University of Hull, England)

Stenocypris fernandoi sp. nov.

Holotype: University of Hull coll. no. HU.239.R.5, ♀ RV, LV, limbs and soft parts.

[Paratypes: University of Hull coll. nos. **HU.239.R.1–4**, 6–8 (five ♂♂, two ♀♀)].

Type locality: Pond, Yala-Palatupana, Sri Lanka; approx. lat. 6°19N', long. 81°27'E. Recent.

Derivation of name: In honour of Professor C. H. Fernando of the University of Waterloo, Ontario, Canada.

Figured specimens: University of Hull coll. nos. HU.239.R.7a (♀: Pl. 3, 30, figs. 1, 2), HU.239.R.5a (♀: Pl. 3, 32, figs.

1, 2; Pl. 3, 34, figs. 1, 2; Pl. 3, 36, figs. 3, 4), HU.239.R.1b (3: Pl. 3, 36, fig. 1), HU.239.R.8b (3:

Pl. 3, 36, fig. 2). All specimens are from the type locality.

Explanation of Plate 3, 30

Figs. 1, 2, \bigcirc RV (**HU.239.R.7a**, 4620 μ m long): fig. 1, ext. lat.; fig. 2, ext. lat. post. termination. Scale A (1 mm; × 22), fig. 1; scale B (40 μ m; × 250), fig. 2.

Stereo-Atlas of Ostracod Shells 3, 31

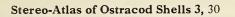
Stenocypris fernandoi (3 of 8)

Diagnosis: A large stenocyprid (length: 33 3.98-4.54 mm, ♀♀ 4.62-5.05 mm) with sharply pointed posterior termination. Marked sexual dimorphism in second and fifth limbs. Furcal rami assymetric, the right ramus strongly spinose, the spines not grouped or bunched. Zenker's organ with 40-45 rosettes.

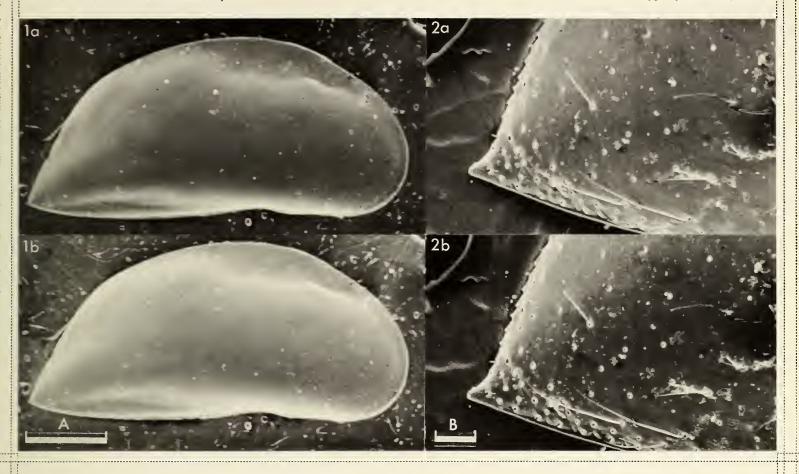
Remarks: Very few species approach S. fernandoi in size. Stenocypris elongata Daday, 1910 (5 mm, E Africa) differs in being lower in proportion to the length, in shape and in the four groups of hairs on the right furca. Stenocypris cultrata Müller, 1900 (3·9-4·7 mm, Africa) differs in shape, the anterior end being lower in lateral view, the posterodorsal margin steeper and with strong marginal hairs on each side of the posterior termination; the hairs on the right furcal ramus are markedly grouped. Stenocypris biwasi Deb, 1972 (4·3 mm, India) is much more elongate and has much better developed marginal hairs. Stenocypris krishnakantai Deb, 1972 (5·37 mm, India) lacks the marginal band of pore canals and is not a Stenocypris but probably a Chrissia Hartmann, 1957. Stenocypris aldabrae Müller, 1898 (2·9-3·5 mm, Aldabra, Indian Ocean) is generally closest but differs in the less acute posterior termination in lateral view and the much wider right furcal ramus, as well as in overall size.

Distribution: So far this species has only been found at the one locality where over 100 specimens were available for study.

Explanation of Plate 3, 32



Stenocypris fernandoi (2 of 8)



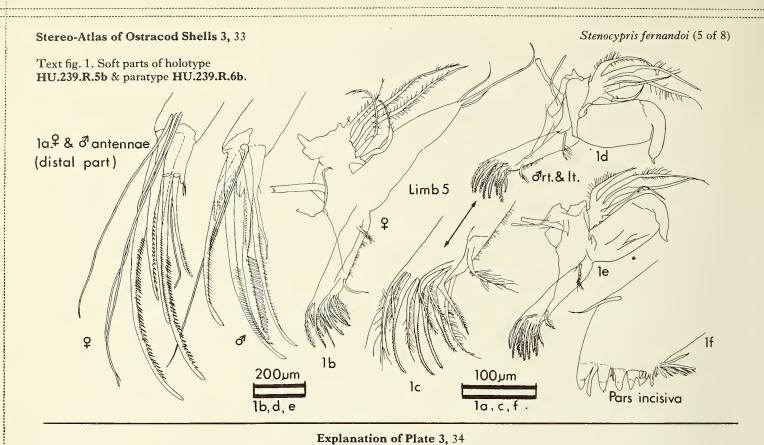
Stereo-Atlas of Ostracod Shells 3, 32

Stenocypris fernandoi (4 of 8)









Figs. 1, 2, $\$ LV (holotype, **HU.239.R.5a**): fig. 1, ext. lat. post. termination; fig. 2, ext. lat. Scale A (200 μ m; \times 90), fig. 1; scale B (1 mm; \times 20), fig. 2.

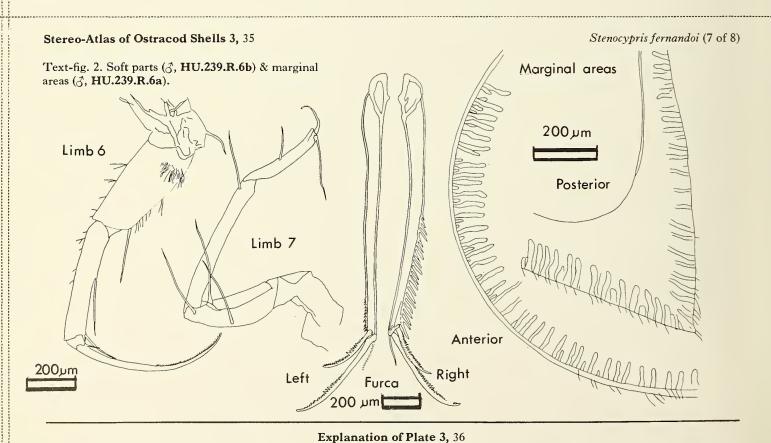
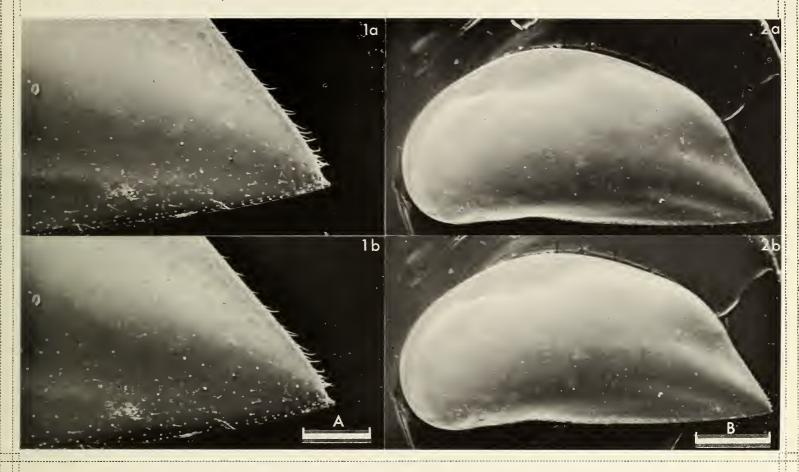


Fig. 1, \circlearrowleft , Zenker's organ (HU.239.R.1b); fig. 2, \circlearrowleft , hemipene (HU.239.R.8b); fig. 3, \circlearrowleft RV, int. ant. obl. (holotype, HU.239.R.5a); fig. 4, \backsim LV, ext. ant. obl. (holotype, HU.239.R.5a). Scale A (200 μ m; × 113), fig. 1; scale B (200 μ m; × 120), fig. 2; scale C (400 μ m; × 33), fig. 3; Scale D (500 μ m; × 18), fig. 4.



Stereo-Atlas of Ostracod Shells 3, 36

Stenocypris fernandoi (8 of 8)





ON ILYOCYPRIS TAPROBANENSIS NEALE sp. nov.

by John W. Neale (University of Hull, England)

Ilyocypris taprobanensis sp. nov.

Holotype: University of Hull coll. no. HU.242.R.1, ♀ LV, RV, limbs and soft parts.

Type locality: Estate pond in coconut plantation, Battuluoya, Sri Lanka; approx. lat. 7°42'N, long. 79°48'E.

Derivation of name: From the Latin taprobane, Ceylon.

Figured specimens: University of Hull coll. nos. HU.242.R.1 (\$\times\$ LV, RV: Pl 3, 38, figs. 1, 2; Pl. 3, 38, figs. 1-3),

HU.242.R.2 (& LV, RV, limbs & soft parts: Text-fig. 1). All material from the type locality.

Diagnosis: Valves with variable spination, even between left and right valves of same individual. Small peri-

pheral spines, about 12 anteriorly, ten posteriorly, with larger tubercles or blunt spines inside them anteriorly and posteriorly. Of the latter the posteroventral, anteroventral and anteromedian are the

most consistent. Furca with very slender claws.

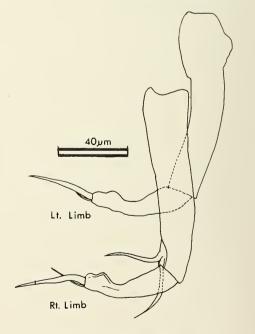
Explanation of Plate 3, 38

Figs. 1, 2, \diamondsuit (holotype, **HU.242.R.1**, 727 μ m long): fig. 1, RV, ext. lat.; fig. 2, LV, ext. lat. Scale A (100 μ m; \times 135), figs. 1, 2.

Stereo-Atlas of Ostracod Shells 3, 39

Remarks: I. taprobanensis is unlikely to be confused with other Ilyocypris species on the basis of shell form. It is not close to species of the genus whose limbs and soft parts are known although the furcal claws resemble those of Ilyocypris divisa Klie in their slenderness. From that species it is easily differentiated by the form of the male clasping limbs (fifth pair of limbs) and the broader, proximal expansion of the furcal ramus.

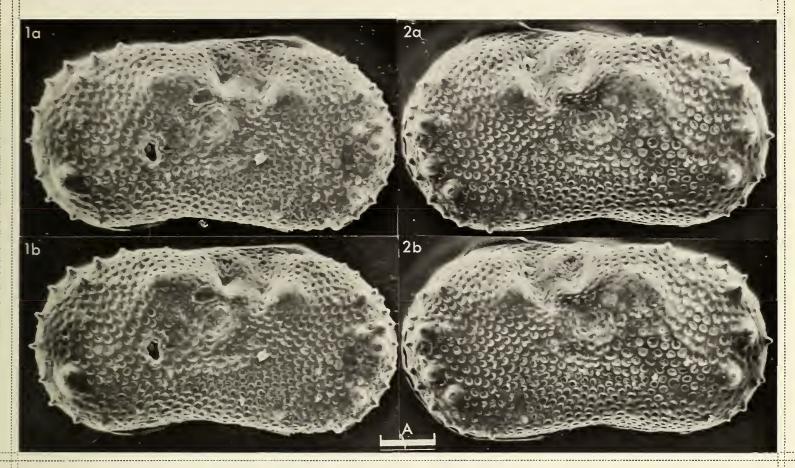
Distribution: So far this species is only known from the Battuluoya area of western Sri Lanka. Ilyocypris taprobanensis (3 of 4)



Text-fig. 1. of fifth limbs (HU.242.R.2).

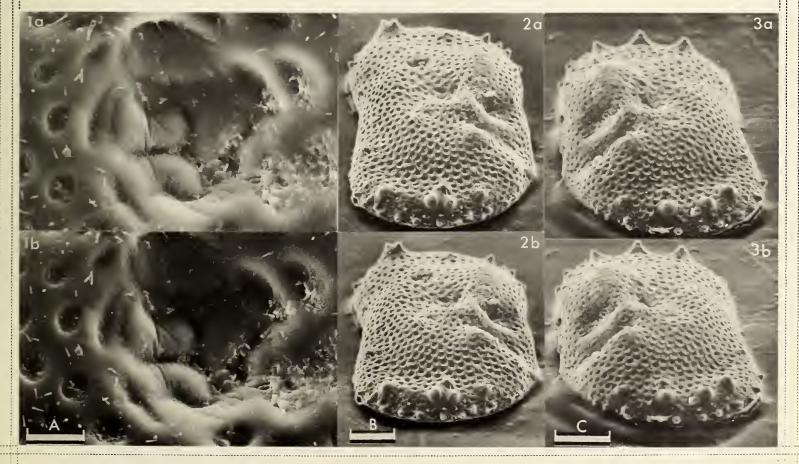
Explanation of Plate 3, 40

Figs. 1–3, ♀ (holotype, **HU.242.R.1**): fig. 1, LV, ext. lat., musc. sc.; fig. 2, RV, ant. obl.; fig. 3, LV, ant. obl. Scale A (20 µm; × 750), fig. 1; scale B (100 µm; × 129), fig. 2; scale C (100 µm; × 137), fig. 3.



Stereo-Atlas of Ostracod Shells 3, 40

Ilyocypris taprobanensis (4 of 4)







ON RADIMELLA DICTYON POKORNÝ

by Richard H. Benson (Smithsonian Institution, Washington, D.C., U.S.A.)

Genus RADIMELLA Pokorný, 1968

Type-species (by original designation): Radimella dictyon Pokorný, 1968.

Diagnosis: A robustly ornate hemicytherine with distinctive reticular pattern; three frontal, divided adductor scars; amphidont hinge with ventrally incised posterior tooth and auxiliary denticles. Three parallel ridges of reticulum extending from muscle node forward; diagonal ridges forming posterodorsal loop with median ridges that become less well organized toward posterior (see Text-fig. 3).

Radimella dictyon Pokorný, 1968

1968 Radimella dictyon sp. nov. V. Pokorný, Acta Univ. Carolinae geol. 1968, 365-368, text-figs. 1-6. 1969 Radimella dictyon Pokorný; V. Pokorný, Acta Univ. Carolinae geol. 1969, 296, pl. 1, fig. 1, pl. 4, fig. 2.

Holotype: U.S.N.M. coll. no. 122091, RV.

Explanation of Plate 3, 42

Figs. 1, 2, LV (122112, 700 μ m long): fig. 1, ext. lat.; fig. 2, int. lat. Scale A (250 μ m; × 130), figs. 1, 2.

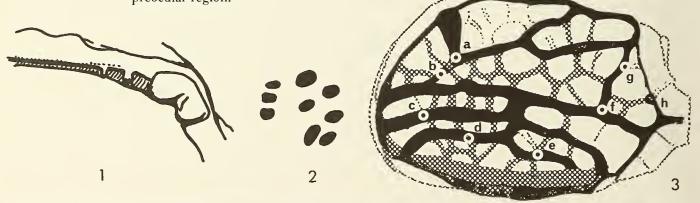
Stereo-Atlas of Ostracod Shells 3, 43

Radimella dictyon (3 of 4)

Type locality: Galápagos Islands; N of Isla Española (Hood Island); Albatross station no. 2813, lat. 01°1′S, long. 89°40′W, depth 40 fathoms, surface temperature 81°F.

Figured specimens: U.S.N.M. coll. no. 122112 (LV: Pl. 3, 42, figs 1, 2; Pl. 3, 44, figs. 2, 3) and 122091 (RV: Pl. 3, 44, fig. 1). Both Recent from type locality.

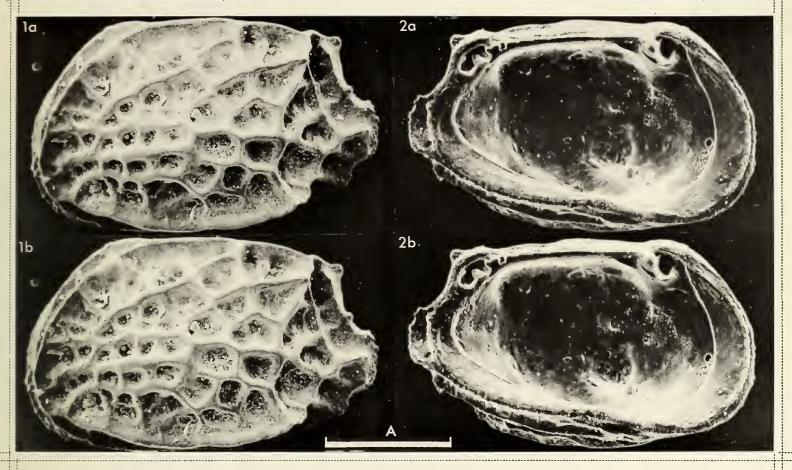
Diagnosis: A species of Radimella with a uniformly developed reticulum and with secondary muri in the preocular region.



Text-figs. 1–3, R. dictyon. 1, post. element RV hinge, × 200; 2, adductor musc. sc. pattern, × 200; 3, LV reticular diagram (modified after Pokorný 1968) with homologous series of pore conuli (a–h), × 120.

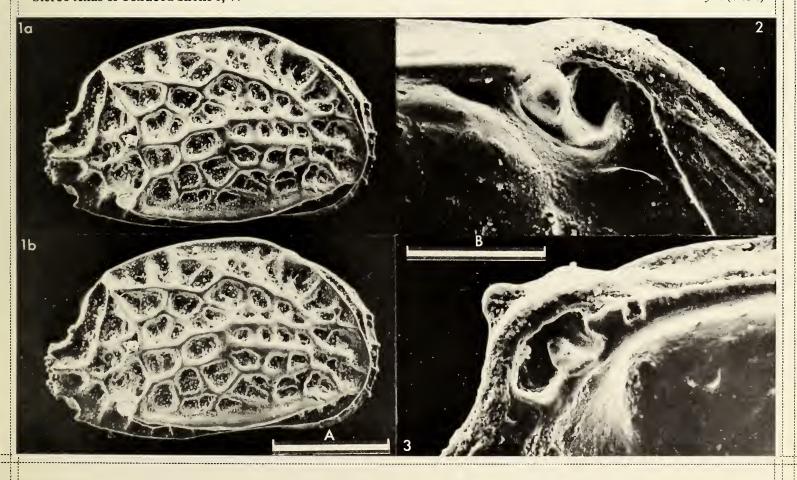
Explanation of Plate 3, 44

Fig. 1, RV, ext. lat. (holotype, 122091, 730 μm long); fig. 2, LV ant. hinge, int. lat. (122112); fig. 3, LV post. hinge, int. lat. (122112). Scale A (250 μm; × 120), fig. 1; scale B (100 μm; × 360), figs. 2, 3.



Stereo-Atlas of Ostracod Shells 3, 44

Radimella dictyon (4 of 4)







ON RADIMELLA DARWINI POKORNÝ

by Richard H. Benson (Smithsonian Institution, Washington, D.C., U.S.A.)

Radimella darwini Pokorný, 1969

1969 Radimella darwini darwini subsp. nov. V. Pokorný, Acta Univ. Carolinae geol. 1969, 297–299, pl. 1, fig. 2, text-figs. 1 a-d, 3, 12. 1969 Radimella darwini dictyonoides subsp. nov. V. Pokorný, ibid., 299–301, pl. 2, fig. 2, text-figs. 5, 6, 10, 11.

Holotype: U.S.N.M. coll. no. 122097.

Type locality: Galápagos Islands; N of Isla Española (Hood Island); lat. 01°1′S, long. 89°40′W. Recent, Albatross station no. 2813, depth 40 fathoms, surface temperature 81°F.

Figured specimens: U.S.N.M. coll. nos. 122097 (LV: Pl..3, 46, figs. 1, 2), 122098 (LV, holotype of R. darwini dictyonoides: Pl. 3, 48, figs. 1, 2). 122097 from type locality. 122098 from Galápagos Islands, Anton Bruun

Cruise 18B, station 791G (lat. 00°27'S, long. 90°21'W; Recent), depth 100 m.

Diagnosis: Strong difference between primary and secondary ridge systems of reticulum.

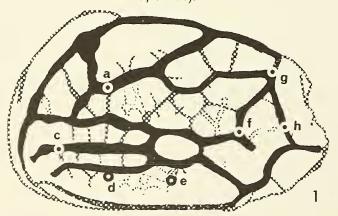
Explanation of Plate 3, 46

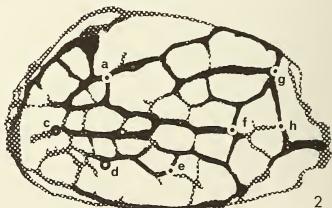
Figs. 1, 2, Radimella darwini darwini, LV (holotype, 122097, 750 μ m long): fig. 1, ext. lat.; fig. 2, int. lat. Scale A (250 μ m; \times 120), figs. 1, 2.

Stereo-Atlas of Ostracod Shells 3, 47

Radimella darwini (3 of 4)

Remarks: Pokorný (op. cit.) recognized two subspecies, R. darwini darwini (Pl. 3, 46 and Text-fig. 1) and R. darwini dictyonoides (Pl. 3, 48 and Text-fig. 2) differing in strength of the secondary ridge systems, with the latter subspecies approaching R. dictyon Pokorný (see Stereo-Atlas of Ostracod Shells 3, 41-44).





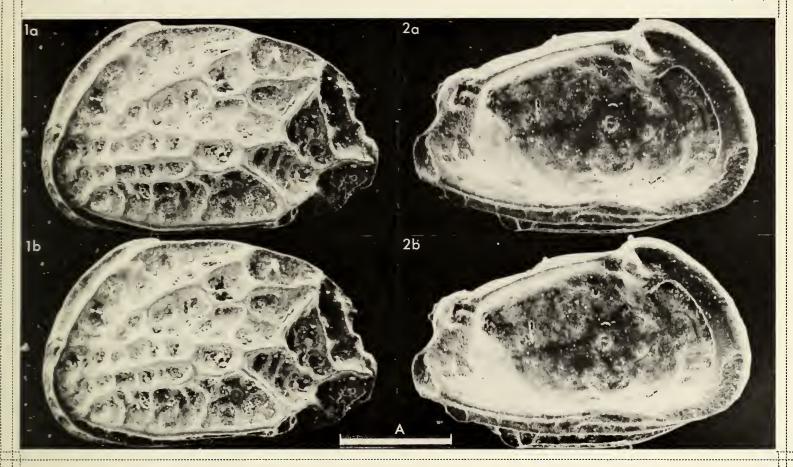
Text-figs. 1, 2. Reticular diagrams of R. darwini darwini (fig. 1) and R. darwini dictyonoides (fig. 2) after Pokorný (op. cit.), × 80; a-h, homologous series of pore conuli.

Explanation of Plate 3, 48

Figs. 1, 2, Radimella darwini dictyonoides, LV (holotype, 122098, 770 μm long): fig. 1, ext. lat.; fig. 2, int. lat. Scale A (250 μm ; \times 117), figs. 1, 2.

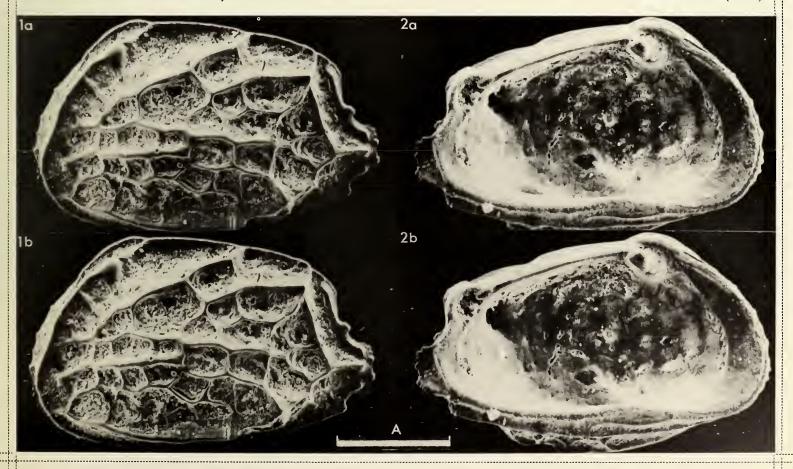
Stereo-Atlas of Ostracod Shells 3, 46

Radimella darwini (2 of 4)



Stereo-Atlas of Ostracod Shells 3, 48

Radimella darwini (4 of 4)







ON RADIMELLA CONFRAGOSA (EDWARDS)

by Richard H. Benson (Smithsonian Institution, Washington, D.C., U.S.A.)

Radimella confragosa (Edwards, 1944)

1944 Hemicythere confragosa sp. nov. R. A. Edwards, J. Paleont. 18, 518, pl. 86, figs. 23–26. 1971 Radimella confragosa (Edwards); J. E. Hazel, Prof. Pap. U.S. geol. Surv. 704, 6.

Holotype: U.S.N.M. coll. no. 559423, ♀ car.

Type locality: Miocene Duplin, pit on N side of Lumber River and W side of U.S. highway no. 74, SE of Lumber-

ton, North Carolina; lat. 34°37′N, long. 79°00′W.

Figured specimens: U.S.N.M. coll. nos. 559423 (\$\partial \caparaller \caparaller \text{21}, 50, figs. 1, 2; Pl. 3, 52, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 1, 2; Pl. 3, 52, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 1, 2; Pl. 3, 52, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 1, 2; Pl. 3, 52, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 1, 2; Pl. 3, 52, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 1, 2; Pl. 3, 52, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 1, 2; Pl. 3, 52, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 1, 2; Pl. 3, 52, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 1, 2; Pl. 3, 52, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 1, 2; Pl. 3, 52, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 1, 2; Pl. 3, 52, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 1, 2; Pl. 3, 52, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 1, 2; Pl. 3, 52, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 3, 4), 172675 (\$\partial \text{LV} : Pl. 3, 50, figs. 3, 4), 172675 (\$\partial

52, figs. 1, 2). 172675 from Yorktown Formation, an open pit phosphate mine of the Texas Gulf Sulphur Co., near Aurora, Beaufort County, North Carolina; Lower Pliocene; lat. 35°20′N, long.

76°45′W.

Explanation of Plate 3, 50

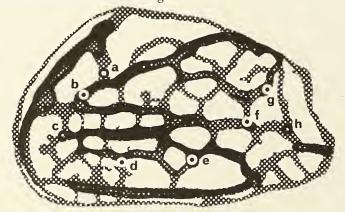
Figs. 1, 2, φ car. (holotype, **559423**, 580 μ m long): fig. 1, LV, ext. lat.; fig. 2, RV, int. lat. Scale A (200 μ m; \times 155), figs. 1, 2.

Stereo-Atlas of Ostracod Shells 3, 51

Radimella confragosa (3 of 4)

Diagnosis: A species of Radimella with massive muri and the posterodorsal loop coincident with the dorsal margin.

Remarks: Similar to Radimella ponderosa Pokorný, 1967 (Recent; Galápagos Islands), whose posterodorsal loop is detached from the dorsal margin.



Text-fig. 1. Reticular diagram; a-h, homologous series of pore conuli, × 150.

Explanation of Plate 3, 52

Figs. 1, 2, $\$ LV (172675, 570 μ m long): fig. 1, ext. lat.; fig. 2, subcentral tubercle, ext. lat. Figs. 3, 4, $\$ car. (holotype, 559423): fig. 3, RV int. lat., post. hinge element; fig. 4, RV int. lat., ant. hinge element. Scale A (250 μ m; \times 135), fig. 1; scale B (100 μ m; \times 400), fig. 2; scale C (50 μ m; \times 500), figs. 3, 4.

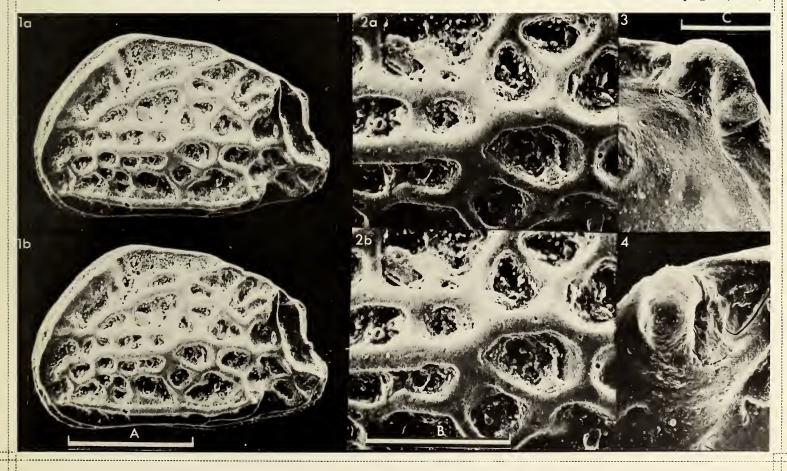
Stereo-Atlas of Ostracod Shells 3, 50

Radimella confragosa (2 of 4)



Stereo-Atlas of Ostracod Shells 3, 52

Radimella confragosa (4 of 4)







ON RADIMELLA? AURITA (SKOGSBERG)

by Richard H. Benson (Smithsonian Institution, Washington, D.C., U.S.A.)

Radimella? aurita (Skogsberg, 1928)

- 1928 Cythereis (Cythereis) aurita sp. nov. T. Skogsberg, Occ. Pap. Calif. Acad. Sci. 15, 120-126, pl. 6, figs. 5, 6, text-fig. 21.
- 1959 Bradleya aurita (Skogsberg); R. H. Benson, Paleont. Contr. Univ. Kans. Arthr. 1, 63, pl. 6, figs. 2a-c, pl. 11, fig. 4.
- 1972 Radimella? aurita (Skogsberg); R. H. Benson, Smithsonian Contrib. Paleobiol. 12, 33.

Syntypes: U.S.N.M. coll. no. 127411.

Type locality: Pacific Grove, California, just outside Hopkins Marine Station, in a tide pool; lat. 36°37′N, long.

121°54′W. Recent.

Figured specimens: U.S.N.M. coll. nos. 190450 (\$\Pi\ LV:Pl 3, 54, figs. 1, 3), 190446 (\$\Pi\ RV:Pl. 3, 54, fig. 2), 190106 (\$\Pi\ RV:Pl. 3, 54, fig. 2)

car.: Pl. 3, 56, figs. 1-3). 190450 and 190446 both Recent from Todos Santos Bay, Baja California, Mexico; lat. 38°41′N, long. 116°40′W, 15 fathoms. 190106 Recent from Bird Rock (beach wash), La

Jolla, California; lat. 32°51′N, long. 117°16′W.

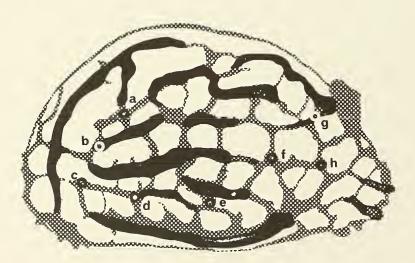
Explanation of Plate 3, 54

Fig. 1, $\ \ LV$, ext. lat. (190450, 860 μm long); fig. 2, $\ \ \ RV$, int. lat. (190446, 840 μm long); fig. 3, $\ \ \ \ LV$, ext. lat., subcentral tubercle (190450).

Scale A (250 μ m; \times 92), figs. 1, 2; scale B (100 μ m; \times 275), fig. 3.

Stereo-Atlas of Ostracod Shells 3, 55

Radimella? aurita (3 of 4)



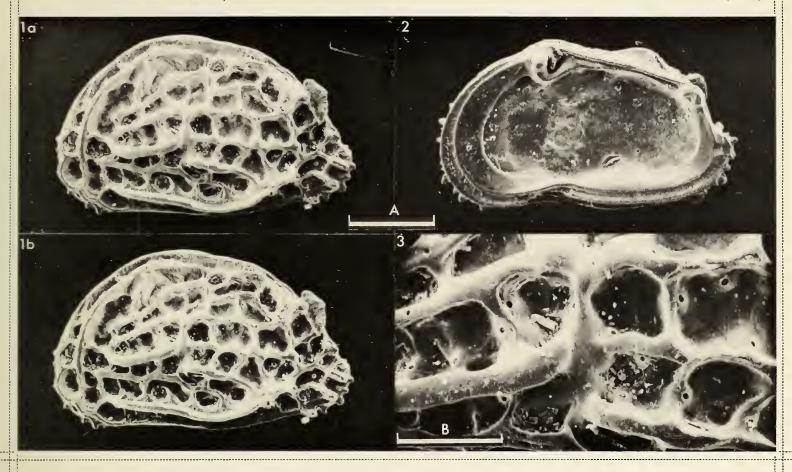
Text-fig. 1. Reticular diagram; a-h, homologous series of pore conuli.

Explanation of Plate 3, 56

Figs. 1–3, $\$ car. (190106, 780 μ m long): fig. 1, ext. lt. lat.; fig. 2, pore with sieve plate; fig. 3, disjunctive mural pore. Scale A (250 μ m; \times 92), fig. 1; scale B (5 μ m; \times 5000), figs. 2, 3.

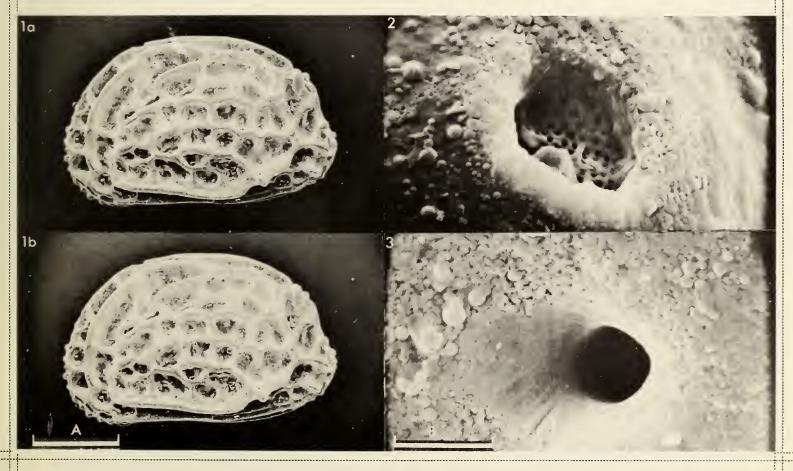
Stereo-Atlas of Ostracod Shells 3, 54

Radimella? aurita (2 of 4)



Stereo-Atlas of Ostracod Shells 3, 56

Radimella? aurita (4 of 4)







ON RADIMELLA? FLORIDANA (BENSON & COLEMAN)

by Richard H. Benson (Smithsonian Institution, Washington, D.C., U.S.A.)

Radimella? floridana (Benson & Coleman, 1963)

- 1963 Aurila conradi floridana subsp. nov. R. H. Benson & G. L. Coleman, Paleont. Contr. Univ. Kans. Arthr. 2, 35, 36, pl. 8, figs. 10-12, text-fig. 21.
- ?1965 Aurila conradi littorala subsp. nov. S. Grossman, Micropaleontology 11, 143-146, pl. 1, figs. 1-11.
- 1966 Aurila conradi floridana Benson & Coleman; R. H. Benson, J. Paleont. 40, 746.
- 1971 Aurila floridana Benson & Coleman; P. C. Valentine, Prof. Pap. U.S. geol. Surv. 683-D, tab. 1, pl. 7, figs. 43-47.
 - Lectotype: U.S.N.M. coll. no. 113202; designated Benson 1966, op. cit.
 - Type locality: Western end of Florida Bay in waters about 4 fathoms deep. Lat. 24°55′N, long. 80°55′W.
- Figured specimens: U.S.N.M. coll. nos. 172654 (\$\Pi\text{LV}\text{: Pl. 3, 58, figs. 1-4}\), 190513 (\$\Pi\text{RV}\text{: Pl. 3, 60, figs. 1-3}\). 172654
 - Recent from Gosnold station 1845 (shelf off Onslow Bay, lat. 33°59·5′N, long. 76°29·3′W, depth 41 m); 190513 Recent from Gosnold station 1474 (shelf off South Carolina, lat. 32°49·3′N, long.
 - 78°44·4′W, depth 32 m).

Explanation of Plate 3, 58

Figs. 1–4, \$\times\$ LV (172654; 700 \(m\) long); fig. 1, ext. lat.; fig. 2, ext. lat., subcentral tubercle; fig. 3, disjunctive mural pore; fig. 4, pore with sieve plate.

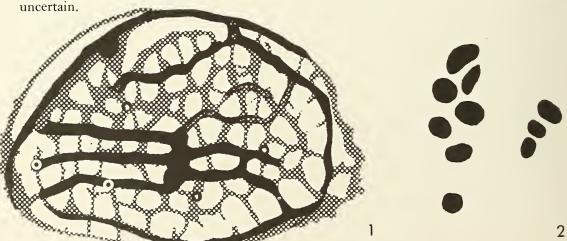
Scale A (250 μ m; × 115), fig. 1; scale B (100 μ m; × 350), fig. 2; scale C (5 μ m; × 5000), figs. 3, 4.

Stereo-Atlas of Ostracod Shells 3, 59

Radimella? floridana (3 of 4)

Diagnosis: Possibly a species of Radimella with the fossae divided by secondary reticulation and an inner posterior rim developed just in from the margin extending from the ventrolateral ridge.

Remarks: Probably conspecific with Aurila conradi littorala Grossman, 1965, from the Recent of Radfish Bay,
Texas coast, though doubt about the reticular pattern of that form makes absolute assignment

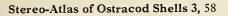


Text-fig. 1. LV reticular diagram, modified after Pokorný (Acta Univ. Carolinae geol., 1968).

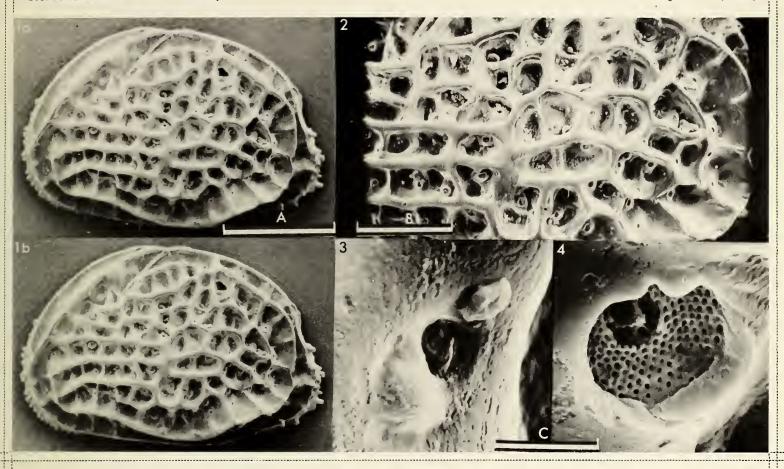
Text-fig. 2. RV int. lat. musc. sc.

Explanation of Plate 3, 60

Figs. 1–3, Ω RV (190513, 690 μ m long): fig. 1, int. lat.; fig. 2, ant. hinge element; fig. 3, post. hinge element. Scale A (250 μ m; × 133), fig. 1; scale B (100 μ m; × 400), figs. 2, 3.

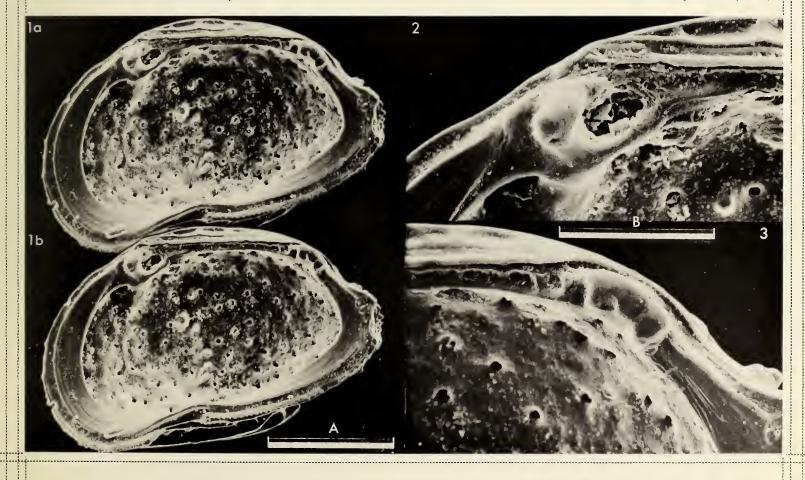


Radimella? floridana (2 of 4)



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Radimella? floridana (4 of 4)







ON CYTHERELLA (CYTHERELLOIDEA) PETROSA DORUK sp. nov.

by Neriman Doruk (University of Leicester, England)

Cytherella (Cytherelloidea) petrosa sp. nov.

Holotype: Brit. Mus. (Nat. Hist.) IO 5771, & LV.

Type locality: A road section 2 km S of Salbaş, Adana area of Turkey; approx. lat. 37°07'N, long. 35°08'E. Tor-

tonian (Upper Miocene); yellow sandstone with abundant molluscs and foraminifera. Presumed

shallow marine.

Derivation of name: From the Greek 'rocky', with reference to the nature of the surface ornament.

Figured specimens: Brit. Mus. (Nat. Hist.) IO 5770 (\$\phi RV: Pl 3, 62, fig. 1), IO 5771 (\$\frac{1}{2} LV: Pl. 3, 62, fig. 2; Pl. 3, 64,

fig. 3), IO 5772 (\$ RV: Pl. 3, 64, figs. 2, 4). The specimen figured in Pl. 3, 64, fig. 1, has been broken

since preparation and photography.

Explanation of Plate 3, 62

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Cytherella petrosa (3 of 4)

Figured specimens: IO 5770 and IO 5771 from type locality, 7 m from the base and at the base of the section respectively.

(contd.) IO 5772 from a road section, 4 m from the base, 1 km N of Salbaş, Turkey; approx. lat. 37°08'N,

long. 35°08'E; Tortonian, grey marl with molluscs and foraminifera; presumed shallow marine.

Diagnosis: Steep dorsally; surface nodose and reticulate.

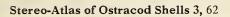
Remarks: Surface variably reticulate and nodulose (see Pl. 3, 64, figs. 2, 4). Sexual dimorphism: males more

elongate (see Pl. 3, 62, figs. 1, 2).

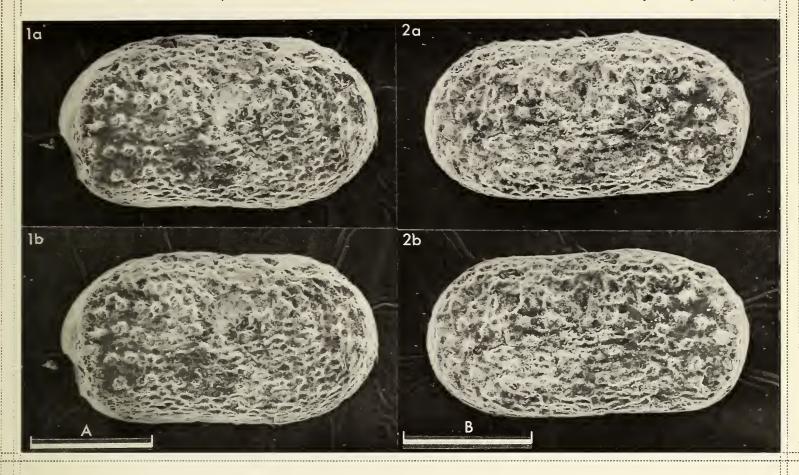
Distribution: Known as yet only from the Upper Miocene near Salbaş in the Adana area of Turkey.

Explanation of Plate 3, 64

Fig. 1, $\Q RV$, int. lat. (broken, 640 μ m long); fig. 2, $\Q RV$, ext. lat. (IO 5772, 640 μ m long); fig. 3, $\Q LV$, detail of surface ornament (holotype, IO 5771); fig. 4, $\Q RV$, detail of surface ornament (IO 5772). Scale A (250 μ m; \times 106), figs. 1, 2; scale B (50 μ m; \times 548), figs. 3, 4.

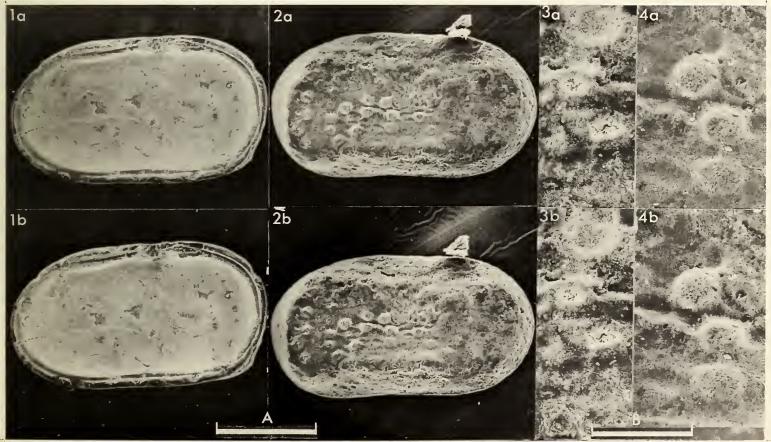


Cytherella petrosa (2 of 4)



Stereo-Atlas of Ostracod Shells 3, 64

Cytherella petrosa (4 of 4)







ON CYTHERELLA (CYTHERELLOIDEA) OCHTHODES DORUK sp. nov.

by Neriman Doruk (University of Leicester, England)

Cytherella (Cytherelloidea) ochthodes sp. nov.

Holotype: Brit. Mus. (Nat. Hist.) IO 5759, ♀ RV.

Type locality: A road section between Babatorun and Com, 1 km SW of Babatorun, Antakya region of Turkey;

approx. lat. 36°04′N, long. 36°15′E. Uppermost Miocene; yellow sandstone with molluscan shell

fragments. Presumed littoral.

Derivation of name: From the Greek 'hilly', referring to the posterior scarp.

Figured specimens: Brit. Mus. (Nat. Hist.) IO 5759 (\$\times \text{RV}: Pl. 3, 66, fig. 1; Pl. 3, 68, fig. 2), IO 5760 (\$\times \text{LV}: Pl. 3, 66,

fig. 2; Pl. 3, 68, fig. 1).

Both specimens are from about 15 m above the base of the section at the type locality.

Explanation of Plate 3, 66

Fig. 1, $\$ RV, ext. lat. (holotype, IO 5759, 710 μ m long); fig. 2, $\$ LV, ext. lat. (IO 5760, 620 μ m long). Scale A (250 μ m; \times 115), fig. 1; scale B (250 μ m; \times 135), fig. 2.

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Cytherella ochthodes (3 of 4)

Diagnosis: Foveolate and punctate; posterior scarp inclined with variable and irregular edge.

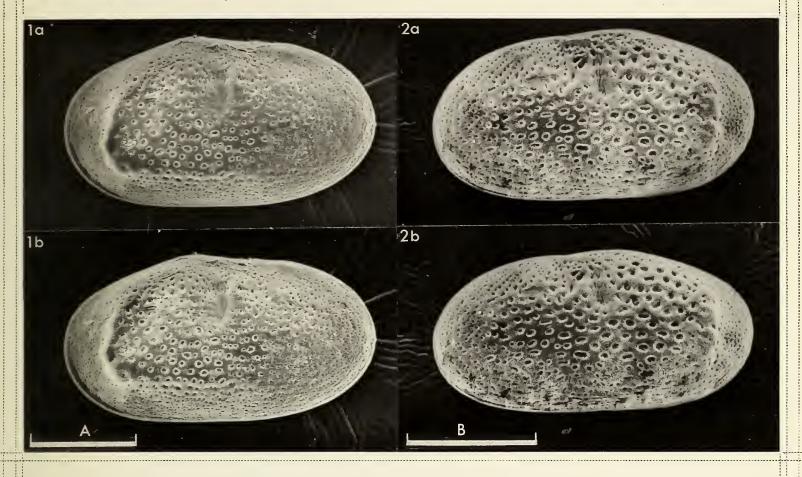
Remarks: Differs from Cytherella (Cytherelloidea) variopunctata (Lienenklaus) in shape. Variable in size of

pits (see Pl. 3, 66, figs. 1, 2). Sexual dimorphism: males a little less high.

Distribution: Known so far only from type locality, Turkey.

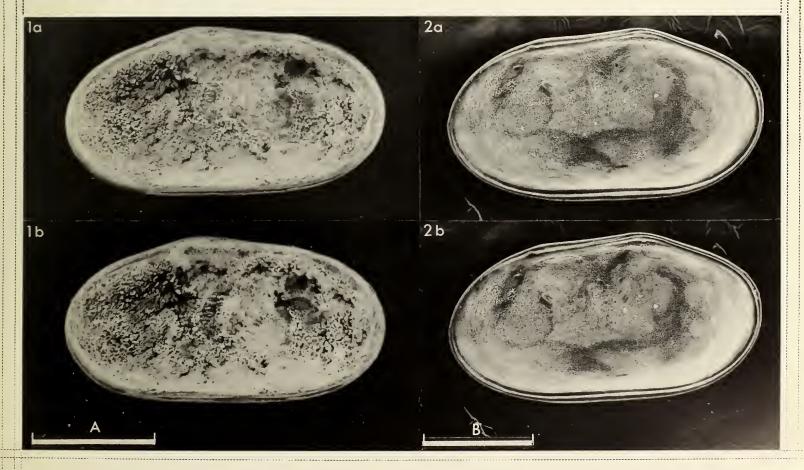


Cytherella ochthodes (2 of 4)



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Cytherella ochthodes (4 of 4)







ON CYTHERELLA (CYTHERELLOIDEA) CHOSTA DORUK sp. nov.

by Neriman Doruk (University of Leicester, England)

Cytherella (Cytherelloidea) chosta sp. nov.

Holotype: Brit. Mus. (Nat. Hist.) IO 5766, ♀ RV.

Type locality: A road section 11 km SW of Kuzucubelen, the Mersin area of Turkey; approx. lat. 36°45'N, long.

34°22'E. Lower Miocene; limestone with molluscs, foraminifera and the ostracods Bythoceratina,

Bairdia, Buntonia and Paracypris. Presumed deep marine.

Derivation of name: From the Greek 'piled up', referring to the fancied resemblance of the papillate ornament to drifts

of sand.

Figured specimens: Brit. Mus. (Nat. Hist.) IO 5766 (\$\pi \text{RV}: Pl. 3, 70, figs. 1, 3), IO 5767 (\$\pi \text{LV}: Pl. 3, 70, fig. 2), IO 5768

($^{\circ}$ LV: Pl. 3, 72, fig. 1), **IO** 5769 ($^{\circ}$ RV: Pl. 3, 72, figs. 2, 3). All specimens are from the base of the type section.

Explanation of Plate 3, 70

Fig. 1, \mathbb{Q} RV, ext. lat. (holotype, IO 5766, 770 $\mbox{\mu}m$ long); fig. 2, \mbox{G} LV, ext. lat. (IO 5767, 760 $\mbox{\mu}m$ long); fig. 3, \mbox{Q} RV, ext. lat., detail of papillate ornament (holotype, IO 5766). Scale A (250 $\mbox{\mu}m$; \times 105), fig. 1; scale B (250 $\mbox{\mu}m$; \times 107), fig. 2; scale C (20 $\mbox{\mu}m$; \times 1050), fig. 3.

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Cytherella chosta (3 of 4)

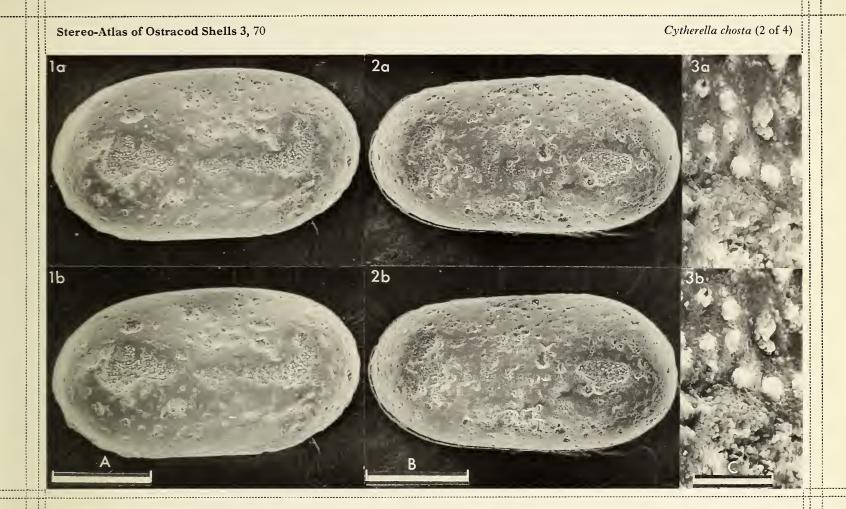
Diagnosis: Carapace oval shaped, surface grooved laterally. Papillate ornament in grooved areas (see Pl. 3, 70, figs. 1-3) is arranged in rows.

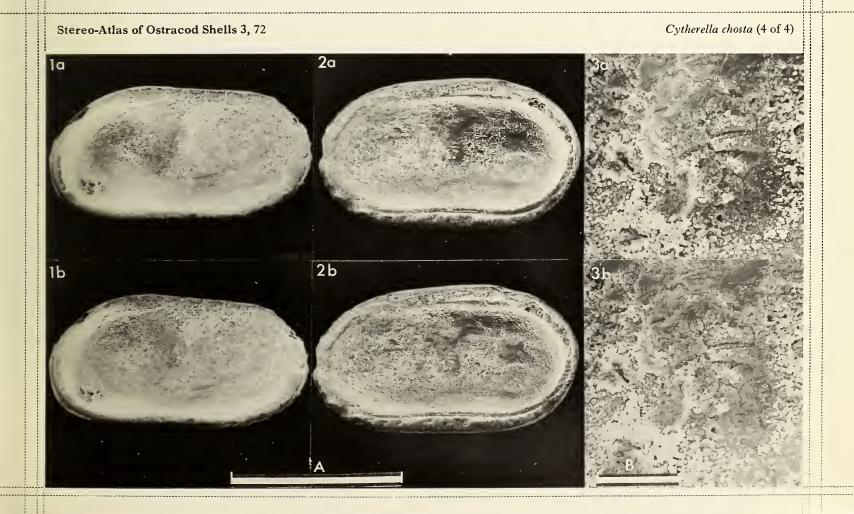
Remarks: The extent of the grooved areas is variable. Sexual dimorphism: males less high (see Pl. 3, 70, figs. 1, 2).

Distribution: Known as yet only from the Lower Miocene of the Mersin area of Turkey.

Explanation of Plate 3, 72

Fig. 1, β LV, int. lat. (IO 5768, 755 μm long); fig. 2, \$\Q\$ RV, int. lat. (IO 5769, 760 μm long); fig. 3, \$\Q\$ RV, int. musc. sci. (IO 5769). Scale A (500 μm; × 90), figs. 1, 2; scale B (50 μm; × 450), fig. 3.









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